VT 30

Berlin 20 Sept 43

Memorandum
[I 103-194]
Re: Russian Baudot Teletype scrambler.

On 18 September 43 discussion was held in the Forschungsamt between Councillor Pätzel, Councillor Kröger (FA) Dr. Pietsch and M. Döring (In 7/VI.)

Councillor Kröger reported on deciphering results with Russian Baudot traffic

On a series of Russian Baudot circuits (mostly on one chanel or a two chanel circuit) for a long time enciphered teletype messages have been received. Apparently this was traffic between Moscow and the high staffs at the front as appeared from chatter in which Russian officers were mentioned (Marshal ....). FA succeeded in reconstructing a cipher machine on which this traffic was based. The break-in was due to a peculiarity of the machine consisting in the fact that currently compromises seven characters in length were produced. In each transmission pause seven characters of pure key are transmitted automatically before the cipher mechanism is switched off. If no text is sent within these seven characters the first plain letter starts the cipher device operating again. The deciphered text yielded a plain (non-ciphered) five digit code.

Structure of the machine:

The five impulses of the plaintext characters are substituted by means of five cipher wheels of length:

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Wheel (Impulse)	I	49	positions
"	"	II	47 "
"	"	III	46 "
"	"	IV	45 "
"	"	V	41 "

The five wheels are driven by a wheel of forty-three positions which has an even motion. The five cipher wheels either all remain stationary or make one step in common.

The Russian scrambler corresponds to the left portion (wheels 1-6) of cipher device SZ 40 save that the lengths of the wheels are different from those of SZ 40. According to discussion with Na Prüf 7 (Dr. Liebknecht, Dr. Pietsch, Hr. Döring, 2.9.43) the SZ 40 can easily be reconstructed to receive the Russian machine.

Since current decipherment with auxilliary equipment is impossible in view of the great extent of the material, FA plans to build cipher machines.